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Alexander, is of other than Roman origin. Many cognomina thus arbitrarily excluded are also worthy of special discussion; but the work is voluminous as it stands, and some limit must be placed even to a modern thesis for the Doctor's degree. Chapter ii deals with the classification of cognomina, their grammatical composition, and their origin. Chapter iii adds some supplementary paragraphs, the most curious of which are those on double cognomina and uncomplimentary cognomina. Although the author tries to assign reasons for the popularity of the various cognomina in different regions and periods, it is a little disappointing that the results are not more precise. In only one particular would the reviewer take issue with the investigator's statements. Repeatedly a distinction is made between the cognomina chosen by common soldiers and those adopted by centurions; see under Datus, Donatus, Fortunatus, Honoratus, etc. In every case, it is true, the wording is somewhat vague, but the author seems to imply that the choice is not a matter of chance so far as the soldier's rank in the legion is concerned. On the contrary, whether the soldier had his Roman name from birth or adopted it on his enlistment, at neither time could he have been sure of future promotion. We must deny the gift of prophecy even to a youth who has attained the rank of a raw recruit.

A short bibliography is followed by an alphabetical list of all soldiers and underofficers of the legions arranged according to cognomina. In addition to the name, there are given rank and legion, the date when possible, the place where the stone is found, and the place where the inscription or papyrus is published. The list takes up the major part of the work and is a most useful supplement to the dissertation.

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*Stoicheia, Heft II: Studien zum antiken Sternglauben.* VON ERWIN PFEIFFER. Leipzig und Berlin: Teubner, 1916. Pp. 130.

In this brief book of studies the author has given a comprehensive treatment of Greek and Roman astrometeorology, from its unscientific foreshadowing in classical Greek literature, down through the skeptical materialism of the Ionic philosophers, to its wider acceptance through the good company of the Stoic theories of *συμπάθεια* and *ἡ είμαρμένη*, its reconciliation with the tenets of Christianity, and its persistence down to the final conflict with modern science. The book contains not only a review of the literature on this subject but an investigation anew of the more important evidences, with a view to distinguishing between *ποιεῖν* and *σημαίνειν* in reference to astral influences.

In Homer cosmic forces are still subject to the arbitrary will of the Olympic gods—an explanation which solves the contradiction that the aut or feels in *Il.* xxii. 30, where Sirius is a *κακὸν σῆμα*, and xxii. 31, where the same star *φέρει πολλὸν πυρετὸν δειλοῖσι βροτοῖσιν*.

The rising and setting of the constellations for Hesiod, in general, only denote the seasons. Pfeiffer, however, thinks that *Works and Days*, 587 and 417, indicate that Hesiod may have thought Sirius, along with the sun, a cause of heat. One reads with surprise that the author considers Hes. *Theog.* 378, Ἀστραίω δ' Ήώς ἀνέμους τέκε καρτεροθύμους, sufficient proof that Hesiod and his contemporaries believed in the influence of the stars upon the air.

There is no literary evidence for the statement (p. 6) that before the birth of Ionic philosophy and the introduction of Chaldaean astrology the Greeks gave the moon precedence in honor over the sun. Aesch. *Prom.* 656 ff. indicates only that the Greeks did not yet know how to determine the seasons by the sun. In Aesch. *Sept.* 389 πρέσβιστον ἀστρων (of the moon) is poetic ornament. The sun also is πρέσβιστον σέλας in Soph. *Frag.* 523 and in Pindar *Paeon* ix. 2, ἀστρόν ὑπέρτατον. Other instances of honor paid to the sun may be found in Homer *Od.* xi. 323, δεινὸς θεὸς; *Od.* xii. 176, ἄναξ; in Pindar ἀγρὸς θεὸς (*O.* vii. 60); in Sophocles *O. R.* 660, τὸν πάντων θεῶν θεὸν πρόμον; *Frag.* 480, Ἀλιε δέσποτα, and throughout Greek literature.

The evidence which Pfeiffer cites for astrometeorology in the dramatic poets is equally unconvincing. In Aesch. *Agam.* 4, λαμπρὸν δυνάστας (of the stars) is a metaphorical epithet, and φέροντας only a more vivid φέροντας σῆμα, a substitution which Pindar *Paeon* ix. 13 ff. and Homer *Il.* xxii. 30 show was not impossible.

In Euripides *Melanippe* fr. 485,

ἢ πρώτα μὲν τὰ θεῖα προυμαντεύσατο  
χρησμοῖσι <σαφέσιν> ἀστέρων ἐπ' ἀντολαῖς

the meaning of τὰ θεῖα is uncertain. Clemens Alex. *Strom.* i. 15. 73, who quotes the passage, explains it thus: ἔδιδάξατο αὐτὸν τὴν φυσικὴν θεωρίαν, τὴν πάτριον ἐπιστήμην. Chiron, he says, had taught: ὅρκους καὶ θυσίας ἵλαρὰς καὶ σχήματ' Ὄλυμπον. If τὰ θεῖα is the same as σχήματ' Ὄλυμπον, it must refer to the heavenly bodies or spheres. But what is meant by προυμαντεύσατο . . . . ἐπ' ἀντολαῖς ἀστέρων in this connection is still obscure. Pfeiffer thinks τὰ θεῖα means astrometeorological phenomena and cites as an example of this use Alexis fr. 30, ii. 309 K, who identifies τὰ θεῖα with ἀστέρων ἐπιτολάς, δύστεις, τροπάς, ἔκλεψιν ἥλιον. There is the same difficulty, however, in connecting τὰ θεῖα in this sense with ἀστέρων ἐπ' ἀντολαῖς. The text is evidently corrupt. Clemens Alex. *Strom.* L. gives the variant χρησμοῖσιν ἢ δ' ἀστέρων ἐπανατολᾶς for the Cyrus reading. Further evidence of the meteorological power of the stars is found in the names of the fixed stars, e.g., Hyades, and a star cult in Ceos. This, too, is doubtful ground. Association of weather changes with the rising and setting of the constellations would account for the names—an interpretation supported by Hellanicus fr. 56. An isolated star cult does not prove a widespread belief.

Two influences, the author states, were at work to undermine the popular superstitions about the stars: the growth of Olympic religion and Ionian

philosophy. There is no literary evidence for the first. Even in Homer the Olympic gods are believed to control the changes in weather. It is true that the mechanistic cosmologies of Anaximander, Anaximenes, Anaxagoras, and Democritus, if logically developed, made a belief in the potency of the stars as agents or as signs impossible. The doxographical literature, however, gives us no information (with the exception of Anaxagoras and Anaximenes) about their views on the relation of the stars to the weather. They may never have discussed the question. Any inferences drawn from their cosmologies are conjectural. Anaximenes, we read, did not believe that the stars' heat reached the earth (Hippol. *Ref.* i. 7) and ascribed all meteorological phenomena to the sun. Anaxagoras states not only (*Aet.* ii. 13. 3) that the sun, moon, and stars are stones and therefore not gods (*Achill. Isag. in Arat.* i. 13) nor even living beings, as their movements are not caused by an indwelling soul but mechanically (*Plut. Lys.* 12) but also that their heat is not perceptible on the earth on account of the distance (Hippol. *Ref.* i. 8, § 7). The question of the divinity of the stars discussed by Pfeiffer (pp. 22–24) in the case of all excepting Anaxagoras is controversial, and does not affect the astrometeorological problem directly, as the philosophers might still have given mechanistic explanations for weather phenomena.

Pfeiffer thinks that the physicians of the pre-Socratic period retained the popular belief in the action of the stars upon weather and men and quotes in proof Hippocrates vi. 470 L. Hippocrates is here insisting that writers *περὶ διαιτῆς* must know *τὰς συμμετρίας τῶν πόνων* in relation to foods, nature and age of the individual, seasons of the year, and changes in winds and locations of places and *τὴν κατάστασιν τοῦ ἐναυτοῦ*. To guard against excesses in food and drink and climate and general conditions of the universe one must know the rising and setting of the constellation with which these changes are associated. There is no suggestion either in this or in the other passages cited, ii. 14 L, ii. 670 L, ii. 42 L, that the stars are active powers.

No certain conclusion can be reached in regard to the views of pseudo-Hippocrates, the author of *περὶ ἔβδομάδων*, who, Pfeiffer believes, derived his cosmology from the Pythagoreans and ascribed meteorological power to the stars. The meaning of *τὰ ἀλλα* and *τῶν ἀεὶ ὄντων* in *περὶ ἔβδομάδων* (chap. ii) is uncertain and may have no reference to astrometeorology. In the second passage cited in proof of a belief in the influence of Arcturus the text is hopelessly corrupt and obscure in meaning.

Plato, Pfeiffer points out, was the first to make the distinction between astronomy and astrometeorology. In his moral opposition to the materialistic cosmologies of Anaxagoras and his predecessors he prefers to ascribe intelligent souls and divinity to the stars and even to assign them a share (along with the Olympic gods) in the creation of man. This last, the author believes, does not mean more than a substitution of the star

gods for the usual mythical creators and is consistent with Plato's belief in the priority of the worship of physical deities (*Cratyl.* 397 C-D, and *Laws* 886 A-D). Plato's separation of the heavenly and sublunary spheres precludes any belief in the agency of the stars, while *Tim.* 40 D (retaining οὐ) proves the same for the prediction of the future.

Aristotle did not explicitly discuss the question, but his theory of the sole activity of the sun and his separation of super- and sublunary spheres are opposed to astrometeorology. The author is not consistent, however, in the inferences he draws from the separation of the spheres. On p. 64 (of Posidonius) and p. 68 (of neo-Pythagoreans) he finds in this theory an argument for the opposite point of view.

Theophrastus reverted to the popular belief in the prophetic power of the stars (Proclus *Tim.* 286 A) and it may be in their direct activity (*De causis plant.* ii. 19. 4). Later Peripatetics seem to have been interested chiefly in the dialectical discussion of the possibility of the influence of both the fixed stars and the planets. Aratus, although the prophetic function alone would be more consistent with his general views, prefers, Pfeiffer thinks, for poetic effect, to speak of the stars as exercising a direct influence.

The Stoics made the greatest contribution to astrometeorology by giving it a philosophical foundation through their theories of συμπάθεια and ἡ εἱμαρμένη (Sext. *Emp.* ix. 78 f.). For the earlier Stoicks, Cleanthes and Chrysippus, the evidence quoted by the author is not convincing. We read in Euseb. *Praep. evang.* xv. 15. 7 that Cleanthes believed that the sun contributed most to τὴν τῶν ὅλων διοίκησιν, ἡμέραν καὶ ἐνιαυτὸν ποιοῦντα καὶ τὰς ἄλλας ὥρας, but it does not necessarily follow that the other cosmic forces were the stars or that their function was meteorological. The quotation from Chrysippus is equally indefinite. Diogenes of Seleucia (v. Arnim, *Stoic. frag.* iii. 25 and 27) and Boethius rejected astrology and Panaetius both astrology and astrometeorology (Cic. *De div.* ii. 42. 87.) Boethius strove to find some causal relation between the coincidence of weather changes with the rising and setting of the constellations. Geminus, εἰσαγωγὴ εἰς τὰ φαινόμενα and Cic. *De div.* ii. 42. 91-94 give a compendium of all the arguments against astral influences. Both alike, Pfeiffer thinks, use Panaetius as their source.

In proof of Posidonius' acceptance of astrometeorology the author can give only the negative evidences of Cic. *De div.* ii. 88, and the statement of August. *De civ. dei* v. 2, with Cicero as authority, that Posidonius believed in genethliology. Cic. *De fato* 3 shows a belief in divination in general, while in Cic. *De nat. deor.* ii, §§ 154-55 (on teleology) and Seneca *Nat. quaest.* ii. 32 Posidonius is not mentioned. The author finds suggestions of Posidonian astrology in Vergil, in such epithets of the stars as *nimbosus*, *pluviae*, *conscia fati*. It is always difficult to determine how far these poetic epithets belong to the traditional language of poetry or are dramatic concessions to the superstitions of the age or clear indications of the poet's own views. Vergil, at any rate, knew the scientific explanation of the universe.

Plotinus believed that the stars acted in a natural manner upon the earth, causing heat and cold, but that they did not have the supernatural power to determine the fate of man.

The Christians were willing to accept astrology as long as it did not question the omnipotence of God and the unity of the universe. In general, however, they accepted only the prophetic power of the stars as servants of God, although other views did prevail despite the doctrine of human responsibility.

I can give only a brief summary of the five appendixes in which the author has discussed several related questions. Appendix I contains a refutal of Burnet's contention that Anaximander believed in the coexistence of innumerable worlds. In Appendix II the author discusses the meanings of *ἐπισημαίνει* and *ἐπισημασία* and other formulae used to introduce weather prognoses in the Greek calendars.

In Appendix III he points out that the tales of weather prophecies by Democritus belong to the general group of wonder legends that tended to gather around the names of philosophers. In Hellenistic-Roman times the philosopher becomes along with the emperor a worker of nature-miracles, a *σώτηρ*, and paves the way for the magician, who is followed as wonder-worker by the Christian saint. In Appendix IV Pfeiffer calls attention to the similarity of Hom. *Hymn to Ares* viii to the prayers to planets and suggests that it may have come from an astrological source. The meter points to the early Alexandrian period as date. In Appendix V he endeavors to prove that the belief that human souls come from and return to the stars is not native to Greece but came from the East, through the mystery-cults and Orphic and philosophical speculation. It owed its wider circulation later to astrology.

I have noted a few inaccurate or omitted references: p. 8, Hesiod *Erg.* v. 283 for v. 383; p. 25, Eustathius  $\mu$  62 for  $\mu$  64; p. 65, Cic. *Acad.* iv. 38 for Cic. *Acad.* ii. 38. The quotation from Cleanthes, p. 54, is found in Euseb. *Praep. evang.* xv. 15. 7, and that from Chrysippus in Stobaeus *Ecl.* i. p. 182.

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*Griechische Geschichte.* Von KARL JULIUS BELOCH. Zweite neu-gestaltete Auflage. Erster Band, Erste Abteilung (I, 1), 1912; Erster Band, Zweite Abteilung (I, 2), 1913; Zweiter Band, Erste Abteilung (II, 1), 1914. Strassburg: Karl J. Trübner. Pp. xii+446 (I, 1), x+409 (I, 2), viii+432 (II, 1).

Each "Abteilung" of the volumes of this new edition of Beloch's *Griechische Geschichte* comprises a volume in the ordinary sense of the word. The extent to which additions and rewriting have been carried can be inferred